

REMARKS

Claims 1-2 and 4-29 are pending, with claims 1, 8, 13, 18 and 23 being independent. Claims 23-29 have been amended. No new matter has been added. Reconsideration and allowance of the above-referenced application are respectfully requested.

Claim Rejections under 35 U.S.C. § 101:

Claims 1-17 stand rejected under 35 U.S.C. § 101 as allegedly lacking patentable utility. This contention is respectfully traversed.

The Office bases the rejection of claims 1-17 on the following analysis:

the claimed invention is directed to a data structure to store information indicating whether a received data is dropped. That is, the data structure does not accomplish a practical application and does not produce "a useful, concrete and tangible result" (see Interim Guideline for Examination Patent Application for Patent Subject Matter Eligibility, Chapter II, section A).

See 03/22/2007 OA at page 2. First, it should be noted that the Interim Guidelines have now been incorporated into MPEP § 2106. Second, it should be noted that claims 1, 2 & 4-7 are directed to a data routing apparatus, claims 8-12 are directed to a method of configuring a data routing device, and claims 13-17 are directed to a method comprising providing a capability for a machine to perform operations relating to packet routing.

In addition, the claimed invention as a whole is clearly useful and accomplishes a practical application, based on the Office's own analysis. The Office acknowledges that the claimed invention is directed to storing information indicating whether a received data packet is to be dropped. This is precisely the practical application that produces a useful, concrete and tangible result, i.e., dropping a data packet during packet routing operations, as would be readily understood by those of ordinary skill in the art. Thus, the claims are directed to subject matter having patentable utility, and withdrawal of the rejections of claims 1-17 under 35 U.S.C. § 101 is respectfully requested.

Claims 23-29 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. This contention is respectfully traversed.

Machine-readable instructions, embodied in a machine-readable medium for causing a machine to perform useful, novel and non-obvious operations does constitute statutory subject matter under 35 U.S.C. § 101. Section 101 of title 35, United States Code, provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

In order to better emphasize the fact that the claims cover statutory subject matter, claims 23-29 have been amended to clarify that the medium is being claimed, not just the instructions. A machine-readable medium, as claimed, is clearly a new and useful manufacture or improvement thereof, as contemplated under 35 U.S.C. § 101. As noted in the MPEP:

In choosing such expansive terms as "manufacture" and "composition of matter," modified by the comprehensive "any," Congress plainly contemplated that the patent laws would be given wide scope. The relevant legislative history also supports a broad construction.

See MPEP 2106(IV)(A), citing *In Chakrabarty*, 447 U.S. at 308-309, 206 USPQ at 197. The plain language of claims 23-29, read in view of the specification, clearly define various aspects of a new and useful manufacture, which causes a machine to perform operations that provide utility in a real-world context. Hence these claims are clearly limited to a practical application in the technological arts, and as such, represent statutory subject matter. See MPEP 2106(IV)(B)(2)(b)(ii).

Furthermore, the suggestion in the Office Action that a computer-related invention must be limited to "a computer readable storage medium", is not supported by the substantive law. Attention is called to the fact that the Examination Guidelines for Computer-Related Inventions, as set forth in MPEP 2106, "do not constitute substantive rule-making and hence do not have the force and effect of law. These Guidelines have

been designed to assist Office personnel in analyzing claimed subject matter for compliance with substantive law. Rejections will be based upon the substantive law and it is these rejections which are appealable." See MPEP 2106(I); emphasis added. In the current Office Action, no citations to the substantive law have been provided in support of the rejections under 35 U.S.C. § 101, and thus these rejections are clearly deficient. In view of the above, withdrawal of the rejections under 35 U.S.C. § 101 is respectfully requested.

Claim Rejections under 35 U.S.C. §§ 102 and 103:

Claims 8, 9, 11, 13, 15, 18 and 19 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Sawada et al. (US Patent 2002/0016858). Claims 1-7, 10, 12, 14, 16, 17 and 20-29 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sawada et al. These contentions are respectfully traversed.

In the Response filed 01/05/2007 (which is hereby incorporated by reference), an example was given, with reference to FIG. 15 in Sawada, highlighting the fact that Sawada clearly describes that packets with the same server destination address can be forwarded in some cases and dropped in other cases, using the same forwarding table, depending on the source address. The Examiner disagrees with this analysis of Sawada, stating, "Sawada teaches that the table has a destination address entry

with a discard flag, i.e., a packet having a destination address and a discard flag associated with the destination address is dropped." See 03/22/2007 OA at page 9. However, neither FIG. 12 nor FIG. 15 shows a table entry having a specific destination address, an arbitrary source address and an associated discard flag.

The Office has failed to provide any citation to Sawada that can be considered to teach creating a table entry with a specific destination address, an arbitrary source address, and an associated discard flag. Sawada looks at both the source address and the destination address when making a forwarding determination, and packets with the same server destination address can be forwarded in some cases while dropped in other cases using the same forwarding table. See e.g., Sawada at ¶ 132 and the description provided in connection with reference numerals 1401 and 1406. Nowhere does Sawada teach or suggest putting a predetermined non-forwarding destination address into the table.

Further, in response to arguments presented in the 01/05/2007 Response, the Office notes that:

Examiner still believes that the destination address with a discard flag is a predetermined non-forwarding destination address and the destination address is invalid for packets traveling between networks, because the packet is dropped, i.e., a destination address has two types; the first type is a non-forwarding

destination address if the table entry has a discard flag associated with the destination address and the second type is a forwarding destination address if the table entry has a forward flag associated with the destination address. Whether a destination address is the first type or the second type is predetermined by the table.

See 03/22/2007 OA at page 9. Reconsideration of this position is respectfully requested.

Assuming for the sake of argument that a server destination address with an associated flag set to discard, in Sawada, constitutes a predetermined non-forwarding destination address due to the association (which is not conceded), this does not make the server destination address a destination address that is invalid for packets traveling between networks. The Office suggests that whether or not a particular address is invalid for packets traveling between networks is determined by the table in Sawada. However, the fact that a device in an inter-network has a forwarding table configured to drop packets having a specific destination address has no bearing on whether that specific destination address is valid or not valid for other packets received by other devices in the inter-network.

A destination address that is invalid for packets traveling between networks (e.g., illegal addresses, loopback addresses, reserved addresses, deprecated broadcast addresses, etc.) is an invalid address, which is the plain meaning of the claim

language. An invalid address cannot be made valid by the action of one router in an inter-network changing its forwarding table. Those of ordinary skill in the art would recognize that whether or not a given destination address is valid for packets traveling between networks is governed by the inter-networking protocol, not by the routers that implement that protocol.

Independent claim 1 recites, "a network interface configurable to receive data packets; a processor coupled with the network interface; and a memory coupled with the processor, the memory being configured to instruct the processor to load a routing data structure configured to store information indicating a received data packet is to be dropped if the received data packet includes a predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

Independent claim 8 recites, "storing information in a routing data structure, wherein the information indicates that a packet having a predetermined non-forwarding destination address is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

Independent claim 13 recites, "comparing a destination address of a packet with routing information stored in a routing data structure, the routing information indicating that the

packet either is to be routed or dropped; and selectively routing the packet based on the routing information stored in the routing data structure, said selectively routing including dropping the packet if the destination address comprises a predetermined non-forwarding address comprising a destination address that is invalid for packets traveling between networks."

(Emphasis added.)

Independent claim 18 recites, "memory means for storing a data structure comprising a destination address routing table having entries, wherein at least one entry contains an indication that a packet having a predetermined non-forwarding destination address that resolves to the least one entry is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks; and processing means for receiving a packet having a destination address from a first network, for checking the destination address against the destination address routing table, and for transmitting the received packet to a second network only if the received packet does not resolve to the at least one entry." (Emphasis added.)

Independent claim 23 recites, "loading one or more routing tables with destination addresses and information selectively indicating either a next-hop address for a packet or that the packet is to be dropped, wherein at least one of the destination addresses comprises a predetermined non-forwarding address for

which the information indicates the packet is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

The claimed subject matter allows incorporation of address error checks into a forwarding table, which is a non-obvious usage of a forwarding table that Sawada neither teaches nor suggests. Sawada does not drop packets based on a predetermined non-forwarding destination address, but rather forwards packets based on a registered destination address and a check for a specific source address. See e.g., Sawada at ¶s 21 and 116, and FIGS. 12 and 15.

For all of the above reasons, independent claims 1, 8, 13, 18 and 23 are in condition for allowance. Dependent claims 2, 4-7, 9-12, 14-17, 19-22 and 24-29 are patentable based on the above arguments and the additional recitations they contain. For example, claims 7, 12, 16, 22, 28 and 29 are patentable because Sawada fails to teach or suggest filtering one or more deprecated directed broadcast addresses as claimed. The Office acknowledges that Sawada does not teach a filtering table including a deprecated directed broadcast address, but then suggests that such would be obvious, without any evidence.

Thus, a prima facie case of obviousness has not been established. The arguments presented in the prior responses regarding claims 7, 12, 16, 22, 28 and 29 have still not been

addressed by the Office. Attention is called to the recent USPTO Memorandum regarding the Supreme Court's KSR decision:

Therefore, in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.

See Memorandum dated May 3, 2007, to Technology Center Directors from Margaret A. Focarino, Deputy Commissioner for Patent Operations, re Supreme Court decision on KSR Int'l. Co., v. Teleflex, Inc. (emphasis added). The Office acknowledges that Sawada fails to disclose an element of the claims and fails to identify any reason why a person of ordinary skill in the art would have combined the recited elements in the manner claimed. Thus, the rejection of claims 7, 12, 16, 22, 28 and 29 is clearly suffering from both legal and factual deficiencies and should be withdrawn.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue or comment does not signify agreement with or concession of that issue or comment. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any

claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that the current rejections are overcome, that none of the cited art teaches or suggests the features which are claimed, and therefore that all of these claims should be in condition for allowance. A formal notice of allowance is thus respectfully requested.

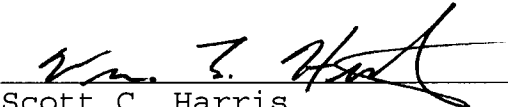
No fees are believed due with this response. Please apply any necessary charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date:

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for



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